



CALIFORNIA ENERGY COMMISSION

## ***The Power of Partnerships: Transforming California's New Home Market***

***SOLAR POWER 2007***

*September 27, 2007*

*Long Beach, CA*

***Jackalyne Pfannenstiel***

***Chairman***

***California Energy Commission***

Thanks for inviting me to speak. I've heard a lot about Solar Power 2007 since I've joined the Energy Commission, and am glad to finally experience in person the heady comradery of dedicated clean energy professionals.

California, like the states that you all represent, is one of the leaders in this country in development of clean energy, renewable energy, and other policies to establish a new direction for energy use in this country.

We have the most aggressive efficiency standards and programs in the country.

We have one of the most aggressive renewable portfolio standards in the country, and one of the largest renewable incentive funds.

We have, at this point, the most aggressive solar program in the country.

And, we've taken leadership positions on other policies that address the immense problem of climate change, including CO2 regulations for cars in the state and most recently AB 32, mandating reductions in climate change emissions in the state.

There's a lot that I could talk about, but I'm going to concentrate on the New Solar Homes Partnership.



## Today's Housing Market News

### Home sales thud to 5-year low point

-CNNMoney.com, September 25, 2007

### Housing Price Drop Looms

-Sacramento Business Journal, September 7, 2007

### U.S. Economy: Consumer Confidence Slumps, Home Sales Decline

-Bloomberg.com, September 25, 2007



### *Home sales thud to 5-year low point*

*Realtors say sales of existing homes dropped for sixth consecutive month, to lowest level in 5 years; separate report shows steepest price drop in 16 years.*

*NEW YORK (CNNMoney.com) -- Housing markets continued to slump across the nation in August as the number of existing homes sold dropped for the sixth straight month to their lowest level in five years, according to the latest report from the National Association of Realtors.*

*Real Estate news is as grim as it has been in years – 1990's was the last time the real estate bubble burst*



## How does California rank vs. the Nation?

MORTGAGE FORECLOSURES STARTED  
0.8 percent of all mortgages



- Foreclosures are on the rise in California
- Percentage of California mortgage foreclosures surpasses the national average in the second quarter of 2007



## The Good News... Solar and Energy Efficiency Sell!



### *Builders are saying...*

- "In the beginning some of the other developers probably thought we were crazy to go solar on this project. Now, especially in a down market, they're all looking to our success and acknowledge that the PV panels make it easy for buyers to choose our community over the rest."

**-Grupe Homes**

- "The upfront cost was a bit of a hurdle for us. Most buyers would rather select granite countertops than solar panels. But once we could demonstrate the long-term savings, and could back that up with real numbers, buyers soon saw the value."

**-Shea Homes**

We interviewed builders who are building ee pv homes – (not all were NSHP – SMUD and Roseville electric too)



## Solar Homes are in the News...

### ***Sun-Powered Homes defy a cool housing market***

*-Los Angeles Times, September 25, 2007*

### **Builder: Solar Energy Systems will be Standard on New Homes**

*-San Jose Mercury News, August 22, 2007*

### **Forecast for Solar Power: Sunny**

*-USA Today, August 26, 2007*

### **Stunning Solar Powered Homes**

*-Forbes, August 16, 2007*



*-Los Angeles Times*

Not all the real estate news is bad. In fact, the high ee solar home is a bright spot in the real estate market.



## What New Home Buyers Want...



- "It not only helped reduce my monthly bills, added resale value and helps the environment, but it's a cool technology to show my friends and family when they come over to visit."
- "I wanted to do as much as I could for the environment while still enjoying a new home."
- "The cost was the same as other builders without the panels."

We also interview people who live in the ee pv homes and these are quotes from 3 different home owners.



## What is our role?



- New residential and affordable housing construction
- \$400 million over ten years
- 160,000 energy-efficient solar homes
- Solar as a standard feature
- Exceed Title 24 requirements for energy efficiency

When Governor Schwarzenegger was first running for office, he kicked off the impetus that led to the New Solar Homes Partnership by establishing a goal of installing solar on 50% of new homes in California.

Get exact quote from earlier presentations or Governor's web-site.

As Governor, from the beginning of his term through his reelection, and, I believe, into the future, the Governor has pushed this historic expansion of solar power.

After SB 1 failed to pass in the 2005 legislative session, the Governor asked the CPUC and the CEC to start working on accomplishing these goals administratively, through our respective agency authorities.

And, in January of this year, the CPUC published a decision establishing the CSI, and the CEC began working on the NSHP



## NSHP exceeds Building Standards

- NSHP Requires Energy Efficiency Beyond Standards
  - ◊ Minimum is **Tier I**: 15% savings beyond 2005 Building Standards, consistent with current utility "New Construction" efficiency programs
  - ◊ Preferred is **Tier II**: 35% savings beyond 2005 Building Standards, plus 40% beyond cooling budget
- Both levels include Energy Star appliances, where applicable
- Efficiency incentives from utility programs

The connection to energy efficiency in the NSHP is based upon California's Loading Order, which states that we first should look for all opportunities to invest in energy efficiency and demand response, then renewables and distributed generation, and finally new and clean conventional technologies.

We see the popularity of solar PV as naturally working with the relative cost-effectiveness of energy efficiency to lead to a sea change in the home building industry in California – designing and building near zero-energy production homes.

So we've required participants in our NSHP to go at least 15% beyond our already most stringent in the nation building standards in order to qualify for our solar incentives. We expect to partner with utility energy efficiency program efforts to provide additional incentives for the increased energy efficiency – our 15% minimum energy efficiency criteria is a typical utility program level.

We prefer, however, that participants voluntarily take advantage of Tier II, a significantly greater level of energy efficiency investment that is 35% beyond building standards levels, and includes a greater contribution of 40% beyond for the system peak oriented cooling part of the standards.

In both cases, we require that all appliances that are installed by the builder will be Energy Star rated, where Energy Star has a rating for that appliance class. This is probably all conventional kitchen and laundry appliances, but wouldn't include such new fangled California things as built-in espresso machines and sweater dryers.



## The Power of Partnerships

- With Builders: Increasing sales of new homes
- With Solar Industry: Opportunities to work with major builders
- With Utilities: Connections to customers and builders
- With Efficiency Providers: Minimize energy use in a new home
- With Local Communities: Help with “smart” growth
- With CPUC: Coordination between programs

The State can't do this alone – we need these partners to help us achieve the 400 megawatt goal, which we estimate will be 160,000

We are also working with related housing industry groups such as financial institutions and appraisers



## NSHP Builder and Solar Industry Partnerships

- Increase partner recognition
- Provide marketing support
- Higher adherence to program goals
  - ◇ Platinum - - - - - Highest EE/Solar Standard
  - ◇ Gold - - - - -
  - ◇ Silver - - - - -
  - ◇ Bronze - - - - - Lowest EE/Solar Option



We are prepared to help our partners sell NSHP homes to help us all achieve our goal. Creating mutually-beneficial partnerships is a key strategy of the New Solar Homes Partnership (NSHP). It is a strategic way of building awareness and demand for energy efficient solar homes, while at the same time stretching the state's limited financial resources. Given the groundswell of public support to reduce global warming and promote energy efficiency, the California Energy Commission's NSHP offers a unique opportunity to demonstrate a commitment to energy efficiency and the environment.

Builders currently who have applied to the NSHP Program: Lennar, Christopherson, Centex, Mertiage, Coastal View Construction (Chico), Granville Homes (Fresno), Pinn Brothers, Pacific Century Homes (Small Dev.), KD Development (Small Dev/San Diego)

Solar Manufacturers: SunPower, Old Country Roofing, Solar Plus, Solar Depot, Sun Belt Solar Systems,



## NSHP Utility Partnerships

- Contract With Utilities for Program Administration
- Significant Synergy with Utilities
  - ◊ New Construction Planning
  - ◊ Energy Efficiency Administration
  - ◊ Interconnection Services
  - ◊ Solar Rate Designs
  - ◊ Advanced Metering Infrastructure Rollout



We believe that the utility must play an allied role in the development of the PV industry, but this is not a natural role for a traditional industry when faced by a disruptive technology.

A disruptive technology is a technological innovation, product, or service that eventually overturns the existing dominant technology or product in the market.

Here, we expect that distributed PV, the only distributed generation technology with widespread potential in residential and commercial applications, will eventually supplant the need for new gas-fired peaking facilities, and the concomitant transmission facilities that get ever more difficult to site and build in California.

Perhaps in the future distributed small fuel cells or small combined heat and power systems will provide a similar disruptive role displacing gas-fired baseload plants.

But in all this, the utility system will be tremendously transformed, and it's not easy for those that will be transformed to embrace the disruption of change easily.

Yet, there are significant synergies between standard utility functions and a growing PV market, including:

The utility function in planning for new loads in their service area, like new housing developments



## NSHP Local Government Partnerships

- Model Ordinances
  - ◊ Assist local governments to advance high energy efficiency, solar communities
- Building Official Outreach
  - ◊ Education-Develop a uniform solar energy code
- Smart Growth and Land Use
  - ◊ Reduce the need for future development of power plants and to ensure that the State meets AB 32 green house gas emission reductions



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City and county building and planning departments, planning commissioners and elected leaders are in a position to either discourage or encourage new home builders the inclusion of solar PV systems among energy-efficient features in home developments. Even staff not in a position to set policy (such as permitting authorities, building inspectors, fire inspectors and code enforcers) may either help or hinder the process of including solar, depending on their level of understanding and commitment.

There are many decision-makers and policy-makers along the chain of command from Board of Supervisors on down to the local building inspector where the decision to include solar can be either encouraged or thwarted. The NSHP campaign intends to work with municipal building officials and local elected leaders to learn how best to enlist their help as partners and advocates in the campaign and make it easier for them to attract energy-efficient home builders to their cities and counties.



## Increasing Public Awareness of Solar and Energy Efficiency

- Marketing Research
- Engage and Educate Builders through Outreach
- Solar Education Workshops
- Community Events
- Media Relations



The goals of the public awareness campaign are three-fold:

Educate new home buyers and builders, trade organizations, industry groups, and financial institutions on the value of new homes that incorporate high levels of energy efficiency and high performing solar systems.

To encourage builders to incorporate high levels of energy efficiency and high performing solar systems as standard features on new production homes.

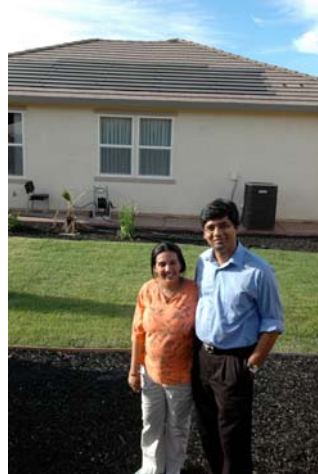
To encourage home buyers to ask for high levels of energy efficiency and solar photovoltaic systems when purchasing new production homes.



## NSHP Market Research-Consumers Want Solar!

The NSHP survey of recent and prospective new home buyers found:

- 91% of Californians view a home's energy efficiency as an important factor when considering the purchase of a new home
- 70% said that the cost of the monthly electricity bill was an important factor in their decision to buy a new home
- Over 50% of Californians think home builders should definitely make roof-top solar electric systems a standard feature in all new single residence homes they build



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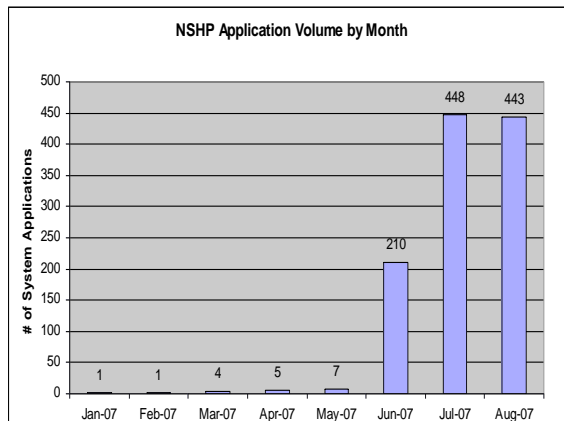
From March through May 2007, Fairbank, Maslin, Maullin & Associates (FMM&A) held six focus groups in Riverside, Fresno, San Diego, and Concord and conducted a survey of 600 randomly selected recent buyers of single family, newly constructed homes in California. This slide summarizes what we learned.

Goals of our research:

- 1- California home buyers who are most likely to seek higher levels of energy efficiency and solar photovoltaic systems when purchasing new homes.
- 2- Ways for encouraging home builders to incorporate these high levels of energy efficiency and solar photovoltaic systems as standard features in new housing developments.
- 3- What messages resonate with new home buyers in promoting high energy efficient, new solar homes.



## NSHP Program Participation



- 1119 home applications to date
- Includes 34 affordable housing applications

### 1119 Broken out by:

Lg Dev	1013
Sm Dev	14
Affordable	34
Custom	58



## CALIFORNIA ENERGY COMMISSION

<a href="#">Solar Information</a>	<a href="#">Solar for NEW Homes</a>	<a href="#">Solar for Your EXISTING Home</a>	<a href="#">Solar for NON-Residential Buildings</a>	<a href="#">Solar for Low-Income &amp; Affordable Housing</a>	<a href="#">Solar for Municipal Utility Customers</a>	<a href="#">News, Calendar &amp; Search</a>
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# Go Solar California!

**Current Program Updates**

California has set a goal to create 3,000 megawatts of new, solar-produced electricity by 2017. From this page, you'll be able to go to the websites for solar on new or existing homes and solar for businesses, schools and public buildings.





The California Energy Commission funds solar electricity systems on **NEW** homes.



The California Public Utilities Commission funds solar electricity systems on businesses and **EXISTING** homes.

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